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THE PRACTICAL  
E D U C A T I O N

DAVID STARR JORDAN







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*From a portrait by Mrs. Emma Curtis Richardson*

# THE PRACTICAL E D U C A T I O N

DAVID STARR JORDAN



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## THE PRACTICAL EDUCATION.

**A** PRACTICAL education is one which can be made effective in life. We often abuse the word *practical* by making it synonymous with temporary or superficial. It should mean just the opposite. An education which takes but little time and less effort, and leads at once to a paying situation, is not *practical*. It is not good, because it will never lead to anything better. An education which does not disclose the secret of power is unworthy the name. Nothing is really practical which does not provide for growth in effectiveness. There is nothing more practical than knowledge, nothing more unpractical than ignorance; nothing more practical than sunshine, nothing less so than darkness. The chief essentials of education should be thoroughness and fitness. The most thorough training is the most practical, provided only that it is fitted to the end in view. The essential fault of educational systems of the past is that, in search for breadth and thoroughness, the element of fitness was forgotten. We have tried, as we used to say, to make well-rounded men, "men who stand four-square to every wind that blows." This is a training better fitted for hitching-posts or windmills than for men. This is the day of special knowledge. Only by doing some one thing better than any one else, can a man find a worthy

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place in our complex social fabric. The ability to do a hundred things in an inferior way will not help him. This is a fact our schools must recognize. No man is great by chance in these days. If one is to do anything of importance he must first understand what he is to do, and then set about it with all his might.

Men of affairs often sneer at college men and college methods. Some of their criticisms are justified, others not. Such justification as they may have had is found in the lack of fitness in college training. Among conditions of life infinitely varied the college has decreed that all boys should take the same studies, in the same way, and at the same time, and that these studies should be the routine of the English boy of a century ago. In thus repeating the thoughts and learning of nations half forgotten, the minds of some "Greek-minded" and "Roman-minded" men were stimulated to their highest activity, and for them such training was good and adequate.

But there were some, "American-minded" perhaps, whose powers were not awakened by such influences. These came forth from the college walls into the life of the world, as Rip Van Winkle from the Catskills, dazed by the new experiences to which their studies had given no clue.

I do not wish to depreciate the value of classical training. There is a higher point of view than that of mere utility, and the beautiful forms and noble thoughts of ancient literature have been a lifelong source of inspiration to thousands who have made no direct use



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of their college studies in the affairs of life. But there are other sources of inspiration which, in their way, may effect many to whom Latin or Greek would be a meaningless grind. For such as these a different training is necessary, if our education is to be practical. The schools of the future will avoid not only bad training, but also "misfit" training; for the time of the student is so precious that no part of it should be wrongly used.

The remedy for the evils of misfit training is not to discard the high standards or the thorough drill of the old college, but to apply it to a wider range of studies. No two students are ever quite alike, and no two will ever follow exactly the same career. If we work to the best advantage, no two will ever follow the same course of study. And thus recognizing in our efforts the infinite variations of human nature, the work of higher education acquires an effectiveness which it could never have under the cast-iron systems of the traditional college. Misfit training is good only as compared with no training at all. Any sort of activity is better than stagnation.

The purpose of right training is to prepare for work which is to last. There is enough already of poor and careless work. Whatever is done needs to be done well. Let it be done honestly—not as to-day's make-shift, but as done for all time.

High under the roof of the Cathedral of Cologne there is many an image carved in stone and wrought with the most exquisite care, but which human eye has

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never seen since it was first placed in the niche in which it stands. This work of the Gothic sculptors was done for the sight of God, and not for the worship of man. The Cathedral of Cologne was almost a thousand years in building. I saw, the other day, a cathedral in one of our Eastern cities, built in barely as many weeks as the other in centuries. The marble sculptures on its lofty towers are made of sheet-iron, zinc-lined, and painted to represent stone. Such is the work of modern cathedral builders. But the slow-moving centuries will show the difference.

A Swiss watchmaker said the other day: "Your American manufacturers cannot establish themselves in Europe. The first sample you send is all right, the second lot begins to drop off, the third destroys your reputation, and the fourth puts an end to your trade. All you seem to care for is to make money. What you want is some pride in your work." If this has been true of American watchmakers, it should be true no longer. The work that lasts must be not the quickest, but the best. Let it be done, not to require each year a fresh coat of paint, but done as if to last forever, and some of it will endure. This world is crowded on its lower floor, but higher up for centuries to come there will still remain a niche for each piece of honest work.

"Profligacy," says Emerson, "consists not in spending, but in spending off the line of your career. The crime which bankrupts men and States is job work, declining from your main design to serve a turn here or there. Nothing is beneath you, if in the direction of

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your life ; nothing, to you, is great or desirable, if it be off from that."

The test of civilization is the saving of labor. The great economic waste of the world is that involved in unskilled labor. The gain of the nineteenth century over the eighteenth is the gain of skill in workmanship. But with all our progress in labor-saving, we have yet far to go before our use of labor shall balance our waste of it. The work which goes to waste in Europe, even now, through lack of training and lack of proper tools, is greater than all the losses through wars and standing armies and the follies of hereditary caste. It is second only to the waste due to idleness itself. For idleness there is no remedy so effective as training. To know how to do is to have a pride and pleasure in doing. In the long run, there is no force making for virtue and sobriety so strong as the influence of skill.

If a man knows how to do and how to act, he is assured against half the dangers which beset life. Training of the hand, training of the mind, training of any kind, which gives the man the power to do something which he knows to be genuine, gives him self-respect, makes a man of him, not a tool, or a force, or a thing.

An unskilled laborer is a relic of past ages and conditions. He is a slave in a time when enforced slavery is past. The waste which comes from doing poor things in poor ways keeps half of humanity forever poor. What the unskilled man can do, a bucket of coal and a bucket of water, guided by "a thimbleful of

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brains," will do more effectively. It is the mission of industrial training to put an end to unskilled labor; to make each workman a free man. When the time shall come when each workman can use his powers to the best advantage we shall have an end to the labor problem. The final answer of the labor problem is that each should solve it for himself.

I have spoken of the training of the hand; but all training belongs to the brain, and all kinds of training are of like nature. The hand is the servant of the brain, and can receive nothing of itself. There is no such thing as manual training as distinguished from training of the intellect. There is brain behind every act of the hand. The muscles are the mind's only servants. Whether we speak of training an orator, a statesman, or a merchant, or a mechanic, the same language must be used. The essential is that the means should lead toward the end to be reached.

An ignorant man is a man who has fallen behind our civilization and cannot avail himself of his light. He finds himself in darkness, in an unknown land. He stumbles over trifling obstacles because he does not understand them. He cannot direct his course. The real dangers are all hidden, while the most innocent rock or bush seems a menacing giant. He is not master of the situation. We have but one life to live; let that be an effective one, not one that wastes at every turn through the loss of knowledge or lack of skill. What sunlight is to the eye education is to the intellect, and the most thorough education is always the most

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practical. No traveler is contented to go about with a lantern when he could as well have the sun. If he can have a compass and a map also, so much the better. But let his equipment be fitting. Let him not take an ax if there be no trees to chop, nor a boat unless he is to cross a river, nor a Latin grammar if he is to deal with bridge-building, unless the skill obtained by mastering the one gives him insight into the other.

I often meet parents who wish to give their sons a practical education. They think of practical as something cheap and easy. A little drawing, a little tinkering with machinery, a little bookkeeping of imaginary accounts, and their sons are "ready for business." "Ready for business," as though the complex problems of finance were to be solved by a knowledge of bookkeeping by double-entry! Life is more serious than that. It takes a thorough education to make a successful business man. Not the education of the schools, we say,—and it may be so; but if so, it is the fault of the schools. They ought to make good business men as well as to make good men in any other profession. They ought to fit men for life. Why do the great majority of merchants fail? Is it not because they do not know how to succeed? Is it not because they have not the brains and the skill to compete with those who had both brains and training? Is it not because they do not realize that there are laws of finance and commerce as inexorable as the law of gravitation? A man will stand erect because he stands in accord with the law of gravitation. A man or a

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nation will grow rich by working in accord with the laws which govern the accumulation of wealth. If there are such laws, men should know them. What men must know the schools can teach.

The schools will indeed do a great work if they teach the existence of law. Half the people of America believe this is a world of chance. Half of them believe they are victims of bad luck when they receive the rewards of their own stupidity. Half of them believe that they are favorites of fortune, and will be helped out somehow, regardless of what they may do. Now and then some man catches a falling apple, picks up a penny from the dust, or a nugget from the gulch. Then his neighbors set to looking into the sky for apples, or into the dust for pennies, as though pennies and apples come in that way. Waiting for chances never made anybody rich. The Golden Age of California began when gold no longer came by chance. There is more gold in the black adobe of the Santa Clara Valley than existed in the whole great range of the Sierras until men sought for it, not by luck or chance, but by system and science. Whatever is worth having comes because we have earned it. There is but one way to earn anything — that is to find out the laws which govern production, and to shape our actions in accordance with these laws. Good luck never comes to the capable man as a surprise. He is prepared for it, because it was the very thing he has a right to expect. Sooner or later, and after many hard raps, every man who lives long enough will find this out. When he

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does so, he has the key to success, though it may be too late to use it.

It is the work of the school to give these laws reality in the mind of the student. The school can bring the student face to face with these laws, and even teach him to make them do his bidding. If we work with them, these laws are as tractable as the placid flow of a mighty river. If we struggle against them, they make the terrible havoc of an uncontrolled flood. To ignore them is to defy them. From our knowledge of the laws of nature arise the achievements of civilization. These are our knowledge wrought into action. The thing we understand becomes our servant. Whatever we know we can have. But whatever we conquer, our victory is a triumph of knowledge.

We speak of this age as the age of inventions, the age of man's conquest of the forces of nature. But the man who invents or constructs machinery is not the conqueror. It is easy for one to harness the lightning when another has shown him the lightning's nature and ways. It is easier still to repeat what others have done. The applications of science are only an incident in the growth of science. The electric light and the locomotive follow sooner or later, as a matter of course, when we have found the laws which govern electric currents and the expansive power of steam. It is this knowledge which gives control over the forces of nature. It is by investigation, not through application or repetition, that man's power advances. It is the inves-

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tigator who comes in contact with the unveiled ways of God. The applications of electricity to common purposes have been for the most part made in our day, but the knowledge on which they are based goes back to the earliest investigators of physical laws. These men forced their way into the infinite darkness, regardless of the multitude that would crowd into their path. An investigator is the cause of a thousand inventors. A Faraday or a Helmholtz is the parent of a thousand Edisons. Without the help of the university Edisons are possible. Only the highest training can make a Helmholtz; for no man can reach the highest rank who has not entered into all the work of all his predecessors.

And this brings me to say that the great work of a university is to be the center of investigation. It should be the source of new truths — of new conquests in every field. To it will come for the brief course of training and guidance many who, in the maturity of their lives, will accomplish much good for their fellow-men. In the ever-increasing circle of human knowledge new fields are being constantly opened. The whole knowledge of the last generation must be taken for granted as the basis of advancement for the next. Not till the circle of human knowledge has widened to infinity, shall we comprehend the infinite goodness of God.





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